IN THE CLAIMS:

Claims 1, 4, 11, 14, 25-28, and 33-36 have been amended herein. Claims 3, 6-10,13, 18-24, 29-32, and 39-52 are canceled. Please note that all claims currently pending and under consideration in the referenced application are shown below. Please enter these claims as amended. This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently amended) A method for forming an isolation structure for a semiconductor device, comprising:

depositing a dielectric material onto a semiconductor substrate;

depositing a buffer material onto the dielectric material;

removing a portion of the buffer film material, a portion of the dielectric material, and material from the semiconductor substrate to form at least one trench extending into the semiconductor substrate, the trench including at least one side wall ~~that lacks recesses~~;

forming an oxide on exposed portions of the semiconductor substrate within the trench;

removing a portion of the buffer material to reduce a thickness of the buffer material and laterally recess a side wall defined by the buffer material relative to a side wall defined by the dielectric material and relative to a side wall of the at least one trench;

applying isolation material to remaining buffer material, in contact with a portion of the dielectric material exposed laterally adjacent to the side wall of the at least one trench, and filling the at least one trench;

removing portions of the isolation material from the remaining buffer material; and

removing the remaining buffer material to exposed side walls of at least one isolation structure protruding from the dielectric material and located laterally beyond corresponding side walls of the at least one trench.

2. (Previously presented) The method of claim 1, wherein forming the oxide includes thermally oxidizing portions of the semiconductor substrate exposed within the at least one trench.

3. (Canceled).

4. (Currently amended) The method of claim 1, wherein removing the ~~prtion~~ portion of the buffer material includes reducing a thickness of the buffer material remaining on the dielectric material.

5. (Previously presented) The method of claim 1, further including annealing the isolation material, the dielectric material, and the oxide.

6-10. (Canceled).

11. (Currently amended) A method for forming a capped shallow trench isolation structure for a semiconductor device, comprising:

applying a dielectric material to a semiconductor substrate;

applying buffer material to the dielectric material;

etching through the buffer material, through the dielectric material, and into the semiconductor substrate to define at least one trench in the semiconductor substrate ~~without substantially recessing the dielectric material relative to the buffer material~~;

forming an oxide on side walls and a bottom of the at least one trench in the semiconductor substrate;

laterally recessing at least one side wall of the buffer material to expose portions of an upper surface of the dielectric material adjacent to an upper edge of the at least one trench while an upper surface of the buffer material is exposed;

applying isolation material to the buffer material, exposed portions of the upper surface of the dielectric material, and the oxide, the isolation material substantially filling the at least one trench;

removing portions of the isolation material layer above the buffer material;

removing remaining buffer material; and

etching the isolation material to form a capped shallow trench isolation structure with side walls that are located laterally beyond corresponding side walls of the at least one trench.

12. (Previously presented) The method of claim 11, wherein forming the oxide includes thermally oxidizing material of the semiconductor substrate at the side walls of the at least one trench.

13. (Canceled).

14. (Currently amended) The method of claim 11, ~~further comprising~~wherein laterally recessing at least one side wall of the buffer material to expose portions of an upper surface of the dielectric material adjacent to an upper edge of the at least one trench comprises removing material from an upper surface and side walls of the buffer material to laterally recess the at least one side wall ~~reducing~~ while reducing a thickness of the buffer material.

15. (Previously presented) The method of claim 11, further comprising annealing the isolation material, the dielectric material, and the oxide.

16. (Previously presented) The method of claim 11, wherein the capped shallow trench isolation structure includes ledges which extend a distance over the upper surface of the dielectric material adjacent to the edges of the at least one trench.

17. (Previously presented) The method of claim 16, wherein the ledges extend about 50 and 150 Å over the upper surface of dielectric material.

18-24. (Canceled).

25. (Currently amended) A method for forming an isolation structure on a semiconductor device structure that includes a semiconductor substrate, a dielectric ~~layer~~material, and a buffer film ~~layer~~material, a trench ~~including at least one continuous side wall~~ extending through the buffer film ~~layer~~material and the dielectric ~~layer~~material and into the semiconductor substrate, and an oxide ~~layer~~material located on portions of the semiconductor substrate within the trench, the method comprising:

selectively etching a portion of the buffer film ~~layer~~material;

applying ~~a layer of~~ an isolation material over the buffer film ~~layer~~material, the isolation material substantially filling the trench;

removing a portion of the isolation material ~~layer~~ above the buffer film ~~layer~~material; and

removing a portion of the buffer film ~~layer~~material from at least an upper surface thereof, a remaining portion of the buffer layer having a reduced a thickness.

26. (Currently amended) The method of claim 25, wherein selectively etching the portion of the buffer film ~~layer~~material includes performing the selective etching prior to the applying ~~a layer of~~ an isolation material.

27. (Currently amended) The method of claim 26, wherein selectively etching the buffer film ~~layer~~material portion results in a portion of the buffer film ~~layer~~material remaining on the semiconductor substrate and extending a distance from the trench.

28. (Currently amended) The method of claim 25, further including annealing the isolation material ~~layer~~.

29-32. (Canceled).

33. (Currently amended) A method of forming a capped shallow trench isolation structure for a semiconductor device structure that includes a semiconductor substrate, a dielectric ~~layer~~material, and a buffer film ~~layer~~material, a trench ~~including at least one side wall without recesses~~ extending through the buffer film ~~layer~~material and the dielectric ~~layer~~material and into the semiconductor substrate, and an oxide ~~layer~~material located on portions of the semiconductor substrate within the trench, the method comprising:

selectively etching a portion of the buffer film ~~layer~~material to expose portions of an upper surface of the dielectric ~~layer~~material adjacent an upper edge of the trench;

applying ~~a layer of~~ an isolation material over the buffer film ~~layer~~material, the isolation material substantially filling the trench;

removing a portion of the isolation material ~~layer~~ above the buffer film ~~layer~~material;

removing material from an upper surface and side walls of the buffer film ~~layer~~material to form a structure comprising the buffer film material and having a side wall laterally recessed with respect to at least one side wall of the trench; and

etching the isolation material to form the capped shallow trench isolation structure.

34. (Currently amended) The method of claim 33, wherein selectively etching the portion of the buffer film ~~layer~~material includes performing the selective etching prior to the applying ~~a layer of~~ an isolation material.

35. (Currently amended) The method of claim 34, wherein selectively etching the buffer film ~~layer~~material portion results in a portion of the buffer film ~~layer~~material remaining on the semiconductor substrate and extending a distance from the trench.

36. (Currently amended) The method of claim 33, further including annealing the isolation material ~~layer~~.

37. (Previously presented) The method of claim 33, wherein the capped shallow trench isolation structure includes ledges which extend a distance over the upper surface of the semiconductor substrate adjacent the opposing trench edges.

38. (Previously presented) The method of claim 37, wherein the ledges extend about 50 Å to about 150 Å over the upper surface of the semiconductor substrate.

39-52. (Canceled).